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P. 03

Patent Application
Serial No. 09/522,808
Docket No. MRI-100

THE UNITED STATES PATENT AND TRADEMARK OFFICE

Examiner : Tiffany A. Fetzner
Art Unit : 2859
Applicants(s) : David A. Molyneaux, G. Randy Duensing, S. Uli Gotshal, Thomas E. Schubert, Alan Holland and Scott B. King
Serial No. : 09/522,808
Filed : March 10, 2000
For : Method and Apparatus for NMR Imaging

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

DECLARATION UNDER 37 CFR 5131

Sir:

I, David A. Molyneaux, G. Randy Duensing, S. Uli Gotshal, Thomas E. Schubert, Alan Holland and Scott B. King hereby declare:

THAT, we are the applicants of the above-identified application and inventors of the subject matter described and claimed therein.

THAT, prior to September 30, 1999, we had completed and tested (see Exhibit B) in this country our invention as described and claimed in the above-identified application, filed March 10, 2000, as evidenced by the following:

1. Prior to September 30, 1999, we conceived of the invention as evidenced by an excerpt from a laboratory notebook, attached herewith as Exhibit A. The date, which is prior to September 30, 1999, has been redacted in the excerpt from the laboratory notebook of attached Exhibit A.

2. Prior to September 30, 1999, we reduced the invention to practice as

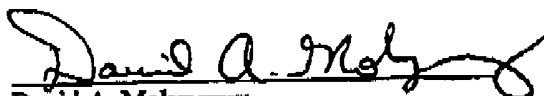
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Docket No. MRI-100
Serial No. 09/522,808

evidenced by an excerpt from a laboratory notebook, attached herewith as Exhibit B, which documents results with respect to measurements conducted with the invention. The date, which is prior to September 30, 1999, has been reacted in the excerpt from the laboratory notebook of attached Exhibit B.

The undersigned declare further that all statements made herein of our own knowledge are true and that all statements made on information in belief are believed to be true; and further that these statements were made with the knowledge that willful false statements in the like so made are punishable by fine or imprisonment, or both, under 1001 of title 18 of the U.S.C. and that such willful false statements made jeopardize the validity of the application or of any patent issuing thereon, or mutant of the claimed sequence.

Further declarants sayeth naught.


David A. Molyneux

July 6, 2004
Date executed


G. Randy Duenning

July 6, 2004
Date executed

S. Uli Gotshal

Date executed

Thomas E. Schubert

Date executed


Alan Holland

July 7th, 2004
Date executed

Scott B. King

Date executed

2

Docket No. MRI-100
Serial No. 09/522,808

evidenced by an excerpt from a laboratory notebook, attached herewith as Exhibit B, which documents results with respect to measurements conducted with the invention. The date, which is prior to September 30, 1999, has been reacted in the excerpt from the laboratory notebook of attached Exhibit B.

The undersigned declare further that all statements made herein of our own knowledge are true and that all statements made on information in belief are believed to be true; and further that these statements were made with the knowledge that willful false statements in the like so made are punishable by fine or imprisonment, or both, under 1001 of title 18 of the U.S.C. and that such willful false statements made jeopardize the validity of the application or of any patent issuing thereon, or mutant of the claimed sequence.

Further declarants sayeth naught.

David A. Molyneaux

Date executed

G. Randy Duensing

Date executed

S. Uli Gotshal

July 8, 2004

Date executed

Thomas E. Schubert

Date executed

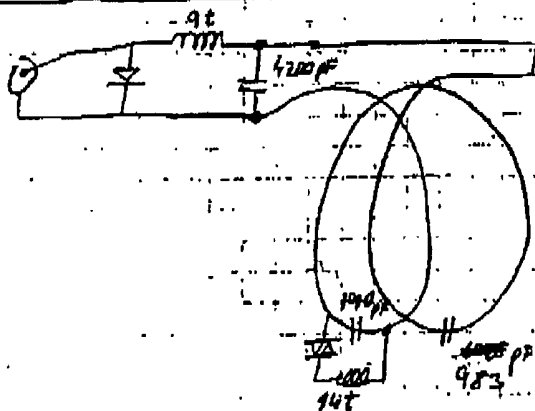
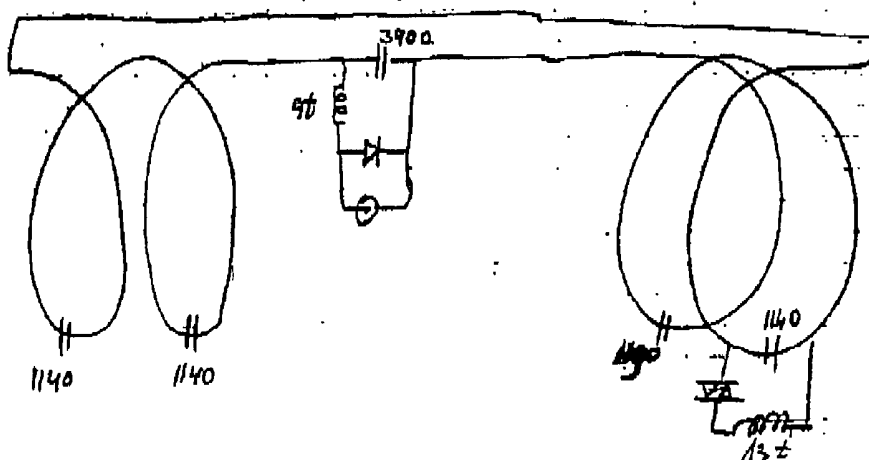
Alan Holland

Date executed

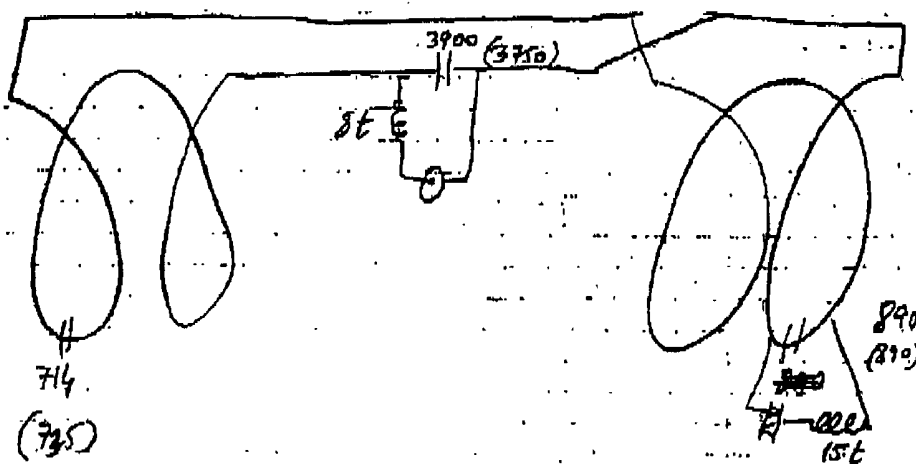
Scott B. King

Date executed

EXHIBIT A

Final results - Profile HRWFinal Configuration:Center Solenoid:Counter Rotating Solenoid:

Helmholtz pairs



(in parenthesis: values for lower pairs)

EXHIBIT B

Profile coil system tests

1. large shoulder - all 4 elements OK.
2. small shoulder - _____
3. wrist - _____
4. Breast - elements 3, 4 - noisy.

SNR Measurements -

Nominal wrist coil : (12 turns solenoid, 3-mm wire)

$$SNR = \frac{950}{3.14} \approx 300$$

Same coil connected to ch1 of PA:

$$SNR = \frac{5384}{23.4} \approx 230$$

Same at ch2:

$$SNR \approx 247$$

same with different scaling factor

" with 3dB attenuator

with YMS Pre-amp - same SNR